

**Science, Values,**

**and Democratic Life**

Meridian Freedom Project

Meridian, MS

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**Course Overview:**

We often automatically take claims by scientific authorities as true without further reflection. This attitude is necessary and justified in many circumstances. However, it poses problems for democracy. Fertile democratic discourse requires an informed public, but the technical and abstract nature of many urgent scientific issues puts them beyond the grasp of the average citizen. As such, we must rely on experts to make some of our most important decisions. As the history of science has shown, this form of governance is problematic because scientific experts are not immune from bias: they have helped move us toward democratic ideals, but they have also used science to advance anti-democratic agendas and special interests. So, the question we face is: how should we resolve the tension between scientific expertise and democracy?

This course seeks to answer this question by taking a critical look at the relationships between science and society, and the implications of these relationships for our ethical and democratic life. It is structured as a historical and topical overview of cases in which science and society have influenced each other, for better or for worse, with the following questions shaping our inquiry. Is the scientific worldview authoritative over other methods of inquiry? When should we believe scientific claims on authority? How have values shaped the pursuit of science? What is the relationship between scientific expertise and different types of justice? We will use case studies and some analytical texts from the history of science and moral and political philosophy to explore these topics.

**How will this course transform students’ understanding, experience, or lives:**

This course leaves students with a historical understanding of the relationship between values and science so that they can situate current debates and issues that affect them in historical context. They will learn basic scientific literacy, which includes skills such as assessing the validity of scientific arguments and picking out implicit arguments and assumptions. They will also develop philosophical skills that help them pick out the salient features of a controversial issue and argue for a position. Most importantly, this course aims to help students become critical consumers of scientific information, thereby enabling them to become more active and informed citizens.

**How will students demonstrate learning?** **Describe the qualitative outcomes of this course (i.e. project, essay, report, presentation, etc.). How does this end-of-course product relate to the course’s transformative goals?**

This course combines lecture and discussion, with a focus on the latter. Students are expected to actively participate and develop their ability to respond respectfully, yet critically, to other participants. Some of the topics we will address may be sensitive, and it is important to learn how to create a civil and open-minded learning environment for each other. During the latter half of the course, a few students will be responsible for leading the discussion with a critical summary of the readings (with my guidance). Each student will do this at least once. The goals of doing these presentations are to get students to actively engage in the readings and to develop confidence in their verbal skills.

The final project takes the form of a research paper and begins in the second half of the course. This will be a four-page philosophical paper that asks students to explain the relationship between epistemic justice and distributive justice. What does epistemic justice look like conceptually and on a practical level, and why is epistemic justice necessary for distributive justice? (Students are also free to argue that it is not necessary.) Students are expected to use case studies to support their arguments. One important component of the process includes peer-editing, where students will learn to offer constructive feedback and exchange ideas one-on-one with peers. On the last day of class, students will engage in a debate on one of the broad questions that have come up during the course.

**Course Readings:**

Francis Bacon, *New Atlantis*

Thomas Leonard, “America Economic Reform in the Progressive Era: Its Foundational Beliefs and Relationship to Eugenics”

Stephen Jay Gould, *Mismeasure of Man*

Cari Romm, “[Rethinking One of Psychology’s Most Infamous Experiments](http://www.theatlantic.com/health/archive/2015/01/rethinking-one-of-psychologys-most-infamous-experiments/384913/)”

Stanford Prison Experiment: [www.prisonexp.org](http://www.prisonexp.org)

Robert Bullard, *Dumping in Dixie: Race, Class, and Environmental Quality*

Goodnough, Davey, and Smith, “[When the Water Turned Brown](http://www.nytimes.com/2016/01/24/us/when-the-water-turned-brown.html)”

Susan Reverby, “More than Fact and Fiction: Cultural Memory and the Tuskegee Syphilis Study”

Elizabeth Anderson, “Epistemic Justice as a Virtue of Social Institutions”

**Suggested additional readings:**

Francis Bacon, *New Organon*

Charles Darwin, *Descent of Man*

Miranda Fricker, *Epistemic Injustice*

Sandra Harding, “After the Neutrality Ideal: Science, Politics, and ‘Strong Objectivity’”

Judith Layzer, “Love Canal: Hazardous Waste and Politics of Fear”

Robert Merton, “Note on Science and Democracy”

Naomi Oreskes, *Merchants of Doubt,* p. 136-147

Karl Rogers, “Democratic Participation in Science and Technology”

Piotr Sztompka, “Trust in Science”

**Part I: Values in science: historical case studies**

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| **Day 1**  Syllabus + Course Intro  Diagnostic Test:  English Section (45 mins.) + Reading Section (35 mins.)  *Discussion/brainstorm:*  What does it mean to be an informed citizen in a democracy? | **Day 2**  **Warm-Up:**  ACT English Practice  **Reading:**  “Justice Department to Tighten Rules on Testimony by Scientists”, *New York Times*  **Daily Focus Question:**  Describe the role of uncertainty in science and explain why uncertainty is important. | **Day 3**  **Warm-Up:**  ACT English Practice  **Reading:**  None  **Daily Focus Question:**  Distinguish between descriptive and normative claims. | **Day 4**  **Warm-Up:**  ACT English Practice  **Reading:**  “Measuring Heads” from *Mismeasure of Man*, Stephen Jay Gould  **Daily Focus Question:**  Be able to detect the presence of normative claims in scientific studies. | **Day 5**  **Warm-Up:**  ACT English Practice  **Reading:**  “Ethical Failures and History Lessons”, Susan Reverby  **Daily Focus Question:**  Be able to offer reasons for and against the claim that “values should constrain scientific inquiry”. |

**Part II: Epistemic Justice and Distributive Justice**

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| **Day 6**  **Warm-Up:**  ACT English Practice  **Reading:**  “When the Water Turned Brown”, *New York Times*  **Daily Focus Question:**  Explain why it is important for ordinary citizens to have access to and understand scientific information. | **Day 7**  **Warm-Up:**  ACT English Practice  **Reading:**  “Environmental Justice for All”, Robert Bullard  **Daily Focus Question:**  Develop a well-supported opinion on what constitutes a “fair share” of environmental goods and burdens. | **Day 8**  **Warm-Up:**  ACT English Practice  **Reading:**  “Environmental Justice for All”, Robert Bullard  **Daily Focus Question:**  Understand the concepts of epistemic justice and distributive justice. Apply these concepts to the environmental case. | **Day 9**  **Warm-Up:**  ACT English Practice  **Reading:**  “The Veil of Ignorance” from *A* *Theory of Justice*, John Rawls  **Daily Focus Question:**  Explain Rawls’ concept of justice and use it to examine the environmental case. Compare Rawls’ concept of justice with your own intuitive one. | **Day 10**  **Warm-Up:**  ACT English Practice  **Reading:**  “Epistemic Justice as a Virtue of Social Institutions”, Elizabeth Anderson  **Daily Focus Question:**  Identify the social consequences of epistemic injustice, and explain the connection between epistemic injustice and distributive injustice. |

**Part II: Epistemic Practices and Epistemic Justice**

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| **Day 11**  **Warm-Up:**  ACT English Practice  **Reading:**  “New Atlantis”, Francis Bacon  **Daily Learning Goal:**  Examine the role of scientific experts in a just society. Explain whether Bacon’s utopia is just.  **Project Day 1**  Partner discussion: brainstorm topics. | **Day 12**  **Warm-Up:**  ACT English Practice  **Reading:**  “Rethinking One of Psychology’s Most Infamous Experiments”, Cari Romm  **Daily Learning Goal:**  Understand the concept of an epistemic practice. Identify some flawed epistemic practices in the Milgram Experiment and suggest better ones.  **Project Day 2**  Outline paper. | **Day 13**  **Warm-Up:**  ACT English Practice  **Reading:**  “Stanford Prison Experiment”, Philip Zimbardo  **Daily Learning Goal:**  Explain how epistemic practices can contribute to just and unjust outcomes.  **Project Day 3**  Finish outlining paper. | **Day 14**  **Warm-Up:**  ACT English Practice  **Reading:**  none  **Daily Learning Goal:**  Debate: Argue for a position on this question: “Should there be ethical limits on science?”  **Project Day 4**  Write first draft. | **Day 15**  **Warm-Up:**  ACT English Practice  **Reading:**  “Why Societies Need Dissent”, Cass Sunstein  **Daily Learning Goal:**  Explain how dissent is related to epistemic justice, and identify the type of epistemic practices that promote dissent.  **Project Day 5**  Complete first draft. |

**Part IV: Paper Writing and Final Project Presentations**

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| **Day 16**  **Warm-Up:**  ACT English Practice  **Project Day 6**  Finalize first drafts and do peer review. | **Day 17**  **Warm-Up:**  ACT English Practice  **Indiv. Paper Day 7**  Revise first drafts with peer feedback. | **Day 18**  **Warm-Up:**  ACT English Practice  **Indiv. Paper Day 8**  Finalize revised drafts. | **Day 19**  **Post-test** | **Day 20**  **Presentations** |